INTERNATIONAL TELECOMMUNICATION UNION

WRC-2000 WORLD RADIOCOMMUNICATION CONFERENCE

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COMMITTEE 5
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United States of America

PROPOSALS FOR UPDATE TO RESOLUTION 216 (WRC-97)

To consider possible extension of the allocation to the mobile-satellite service (Earth-to-space) on a secondary basis in the band 14.0-14.5 GHz to cover aeronautical applications as stipulated in Resolution [216 (WRC-2000)]

Introduction

A growing demand exists for wideband satellite communications capacity that is available for mobile applications, including communications with aeronautical platforms. Studies have already been initiated on the suitability of extending the allocation to the MSS (Earth-to-space) on a secondary basis in the 14.0-14.5 GHz band to permit aeronautical applications using existing fixed-satellite service networks. It is proposed that these studies be continued and made available for consideration of a secondary allocation by WRC-03.

Background information

The 1997 World Radiocommunication Conference ("WRC-97") adopted Resolution 216, which resolved that WRC-2000 should examine the possibility of broadening the secondary MSS allocation in the 14.0-14.5 GHz band ("14 GHz band") to include aeronautical services, subject to the satisfactory outcome of technical compatibility studies. WRC-97 also resolved to include the issue as agenda item 8.5 on the agenda for WRC-2000 in Resolution 721 (WRC-97) if budgetary resources could be identified. This item was not included in the revised WRC-2000 agenda given in Resolution 1130, due to budgetary constraints. As noted in the Conference Preparatory Meeting Report (Geneva, 1999), at section 8.1.2, ITU commenced studies on all items identified in Resolution 721 and has made progress on these matters.

This proposal considers measures that could be taken to enable existing and future satellite communication networks to serve additional commercial and government customers. A growing portion of commercial and governmental demand for wideband[1] satellite communications capacity involves "mobile" applications, such as transmissions with aircraft, ships, submarines, spacecraft and motor vehicles. In contrast, most satellite networks that are capable of wideband

[1] For purposes of this discussion, wideband refers to satellite networks that are capable of carrying transmissions in excess of 64 kilobits per second.

communications operate in the fixed-satellite service (“FSS”) using geostationary orbit (“GSO”) networks in the 4-8 GHz and 12-18 GHz bands.

The international Table of Frequency Allocations (RR Article S.5) permits FSS networks to carry Earth-to-space communications from mobile platforms on a secondary basis in the 14 GHz FSS band. The frequency table indicates, however, that such mobile transmissions may not originate from airborne transmitters. This limitation exists primarily because technical studies have not been published indicating that airborne communications can be provided in the 14 GHz band without causing unacceptable interference to primary services using the spectrum.

Under experimental authority granted by the FCC, testing of the technology enabling Earth-to-space transmissions from aeronautical platforms in the 14 GHz band is being carried out. The experimental trials are expected to support the feasibility of a new allocation.

The adoption of a secondary AMSS allocation in the 14 GHz FSS band by WRC-03 would enable the aviation community to enjoy the benefits of wideband communication services currently available only to fixed and non-aeronautical mobile users. Continual access to broadband communication services has become a key element to business efficiency and individual productivity. Such services could be used for non-safety-of-flight related functions to improve airline efficiency and give passengers constant access to information and data services. For example, such a capability could be used to monitor aircraft equipment performance, providing operational and technical staff on the ground with real-time access to the data. A broadband AMSS capability could also allow airline passengers and crew to access the Internet during flight using laptop computers.

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RESOLUTION 216 (Rev.WRC-~~97~~2000)

Possible broadening of the secondary allocation to the mobile-satellite service (Earth-to-space) in the band 14-14.5 GHz to cover aeronautical applications

The World Radiocommunication Conference (~~Geneva, 1997~~Istanbul, 2000),

considering

a) that the band 14-14.5 GHz was allocated to the land mobile-satellite service (Earth-to-space) on a secondary basis prior to ~~this Conference~~WRC-97;

b) that ~~this Conference~~WRC-97 replaced this by an allocation to the mobile-satellite service (Earth-to-space) except aeronautical mobile-satellite, on a secondary basis;

c) that the band 14-14.5 GHz is also allocated to the fixed-satellite (Earth-to-space), radionavigation, fixed and mobile, except aeronautical mobile, services;

d) that the services in *considering c)* need to be protected consistent with their allocation status;

~~*d*~~*e)* that there is a demand for use on board aircraft~~,~~ of aeronautical mobile-satellite service capabilities in order to provide ~~location and two-way messaging~~two-way communication and data transmission functions~~, of the same type of terminals now used for land and maritime applications~~;

~~*e*~~*f)* that such demand justifies the consideration of possible broadening of the allocation to include aeronautical applications on a secondary basis at a future competent conference;

~~*f*~~*g)* that studies on the feasibility of such a broadening of the allocation must be completed before the aforementioned competent conference, with the participation of relevant entities and organizations;

~~*g*~~*h)* that Recommendation **34 (WRC-95)** states that future world radiocommunication conferences, whenever possible, should allocate frequency bands to the most broadly defined services with a view to providing maximum flexibility in spectrum use,

resolves

that WRC-~~99~~03 should examine the possibility of broadening the secondary allocation to the mobile-satellite service (Earth-to-space) except aeronautical mobile-satellite in the 14-14.5 GHz band to include aeronautical use, subject to ~~the satisfactory outcome of technical compatibility studies~~results of ITU-R studies demonstrating compliance with the requirements of a secondary allocation,

invites ITU-R

to complete in time for WRC-~~99~~03 the technical and operational studies on the feasibility of sharing of the band 14-14.5 GHz between the services referred to in *considering c)* above and the aeronautical mobile-satellite service, with the latter service on a secondary basis,

instructs the Director of the Radiocommunication Bureau

to invite relevant entities and organizations to participate in these studies.